

AMENDMENTS TO THE CLAIMS

1-4. (Cancelled)

5. (Previously Presented) A system as claimed in claim 10, wherein the gateway is further configured to:

receive an indication of a handoff;

send call parameters to the mobile terminal; and

instruct the mobile terminal to switch a radio to the cellular carrier network using the call parameters.

6. (Previously Presented) A system as claimed in claim 10, wherein the gateway is further configured to perform TDMA-to-VoIP conversion.

7. (Currently Amended) A method of handling calls between a wireless local area network of an enterprise and a cellular carrier network for a mobile terminal that is capable of communicating over the wireless local area network and the cellular carrier network, the method comprising:

registering and emulating the mobile terminal on the cellular carrier network when the mobile terminal is communicating via the wireless local area network within the enterprise;

receiving, via a fixed radio terminal, calls from the cellular carrier network; and

routing the received calls received from the cellular carrier network to the mobile terminal via the wireless local area network, wherein routing the received calls comprises calling a telephone number of the mobile terminal for a call of the received calls involving a party in a given network.

8-9. (Cancelled)

10. (Currently Amended) A system for managing calls between a wireless local area network (wireless LAN) and a cellular carrier network, the system comprising:

a fixed radio terminal configured to communicate with the cellular carrier network and to emulate a mobile terminal on the cellular carrier network; and

a gateway configured to:

receive a registration message from the mobile terminal via the wireless LAN,

register the mobile terminal on the cellular carrier network via the fixed radio terminal,

receive a call from the cellular carrier network via the fixed radio terminal,

and

route the received call to the mobile terminal over the wireless local area network;

and

call by calling a telephone number of the mobile terminal when the received call involves a party in a given network.

11. (Cancelled)

12. (Previously Presented) A system as claimed in claim 10, wherein the mobile terminal is configured to be assigned at least two telephone numbers, comprising a telephone number for the cellular carrier network and a telephone number for a private branch exchange.

13. (Previously Presented) A system as claimed in claim 12, wherein the gateway is further configured to:

receive calls placed to either the telephone number for the cellular carrier network or to the telephone number for the private branch exchange and route the received calls to the mobile terminal via the wireless LAN when the mobile terminal is on the wireless LAN.

14. (Previously Presented) A system as claimed in claim 10, wherein the mobile terminal is further configured to:

attempt to register with the wireless LAN; and

register with the cellular carrier network when registration with the wireless LAN is unsuccessful.

15. (Previously Presented) A system as claimed in claim 10, wherein the mobile terminal is configured to monitor one or more calls for call quality over the wireless LAN

16. (Currently Amended) A system as claimed in claim 15, wherein the mobile terminal is further configured to switch to communicating over the cellular carrier network when in response to determining that the call quality of a received call ~~degrades~~ has degraded below a threshold value.

17. (Currently Amended) A system as claimed in claim 16, wherein the given network comprises is the public switched telephone network (PSTN).

18. (Previously Presented) A system as claimed in claim 17, wherein the gateway is further configured to receive a call placed to the phone number of the cellular carrier network.

19. (Previously Presented) A system as claimed in claim 18, wherein the gateway is further configured to:

receive parameters of the call placed to the phone number of the cellular carrier network;
and

forward the parameters to the mobile terminal.

20. (Previously Presented) A system as claimed in claim 10, wherein the mobile terminal is configured to monitor one or more calls for call quality over the cellular carrier network.

21. (Previously Presented) A system as claimed in claim 20, wherein the mobile terminal is further configured to switch to communicating over the cellular carrier network when the call quality of a received call from the cellular carrier network degrades below a threshold value.

22. (Previously Presented) A system as claimed in claim 21, wherein the gateway is further configured to:

determine whether a call quality of a given call has degraded to the threshold;

and responsive to determining the call quality of the given call has degraded to the

threshold,

monitor communications for the mobile terminal on the cellular carrier network, and

send communications to the mobile terminal via the wireless LAN and communications from the mobile terminal to the cellular carrier network via a fixed antenna.

23. (Previously Presented) A system for managing calls between a wireless local area network and a cellular carrier network, the system comprising:

a mobile terminal capable of communicating over the wireless local area network and the cellular carrier network; and

a gateway that registers and emulates the mobile terminal on the cellular carrier network when the mobile terminal is communicating via the wireless local area network, the calls from the cellular carrier network being received via a fixed radio terminal of the gateway, the gateway configured to route calls received from the cellular carrier network to the mobile terminal over the wireless local area network;

wherein the mobile terminal is configured to be assigned a telephone number for the cellular carrier network and a telephone number for a private branch exchange and calls placed to the telephone number of the cellular carrier network are received by the fixed radio terminal of the gateway and routed to the mobile terminal via the wireless local area network when the mobile terminal is on the wireless local area network and calls placed to the telephone number of the private branch exchange are received by the gateway and routed to the mobile terminal via the wireless local area network when the mobile terminal is on the wireless local area network;

wherein the mobile terminal attempts to register with the wireless local area network and only registers with the cellular carrier network if registration with the wireless local area network is unsuccessful; and

wherein if a call is placed to a phone number of a private branch exchange while the mobile terminal is communicating over the cellular carrier network, then the gateway calls a telephone number of the mobile terminal on the cellular carrier network and routes the call to the mobile terminal through the cellular carrier network.

24. (Cancelled)

25. (Previously Presented) A system as claimed in claim 10, wherein the gateway is further configured to perform CDMA-to-VoIP conversion.

26. (Previously Presented) A method as claimed in claim 7, further comprising:
inheriting call parameters; and
switching a radio to the cellular carrier network using the call parameters responsive to the mobile terminal moving from the wireless local area network into the cellular carrier network.

27. (Previously Presented) A method as claimed in claim 7, wherein the mobile terminal is configured to be assigned a telephone number for the cellular carrier network and a telephone number for a private branch exchange of the enterprise.

28. (Previously Presented) A method as claimed in claim 27, further comprising:
for calls placed to the telephone number for the cellular carrier network, receiving the calls at the fixed radio terminal and routing the calls to the mobile terminal via the wireless local area network when the mobile terminal is on the wireless local area network; and

for calls placed to the telephone number for the private branch exchange, receiving the calls and routing the calls to the fixed radio terminal via the wireless local area network when the mobile terminal is on the wireless local area network.

29. (Previously Presented) A method as claimed in claim 7, wherein registering and emulating the mobile terminal comprises:

receiving a registration request on behalf of the mobile terminal;
responsively registering the mobile terminal on the cellular carrier network; and
responsive to successful registration of the mobile terminal on the cellular carrier network, sending a registration complete message.

30. (Previously Presented) A method as claimed in claim 7, further comprising monitoring a call for call quality over the wireless local area network.

31. (Currently Amended) A method as claimed in claim 30, further comprising, when in response to determining that the call quality degrades has degraded to a threshold, switching to the cellular carrier network.

32. (Previously Presented) A method as claimed in claim 30, further comprising:
responsive to determining the call passes through a private branch exchange of the enterprise, calling a telephone number of the mobile terminal on the cellular carrier network and routing the call to the mobile terminal through the cellular carrier network.

33. (Previously Presented) A method as claimed in claim 30, further comprising:
responsive to determining the call is on a phone number of the cellular carrier network when the mobile terminal is switching to the cellular carrier network, handing off the call to the mobile terminal.

34. (Currently Amended) A method, comprising:
registering, at a gateway, a mobile terminal via a wireless local area network (LAN);
establishing, at the gateway, a wireless-LAN connection to the mobile terminal via the wireless LAN;
establishing, at the gateway, a wireless connection with a cellular carrier network on behalf of the mobile terminal;
receiving, at the gateway, a cellular call intended for the mobile terminal from the cellular carrier network and routing the call to the mobile terminal via the wireless-LAN connection;
receiving, at the gateway, a handoff request from the mobile terminal; and
responsive to the handoff request, the gateway:
making a second call to a telephone number of the mobile terminal, and
receiving the second call on behalf of the mobile terminal.

35. (Previously Presented) The method of claim 34, further comprising:
instructing the mobile terminal to switch a radio to the cellular carrier network based on

the call parameters.

36. (Previously Presented) The method of claim 34, further comprising:
closing the wireless-LAN connection; and
ceasing communications on behalf of the mobile terminal in the cellular carrier network.

37. (Withdrawn) A method, comprising:
receiving a message from a mobile device, wherein the information comprises parameters about an in-progress call;
establishing a connection with the mobile device via a wireless local area network;
listening on a channel of a cellular carrier network used by the mobile device in the in-progress call; and
relaying information about the in-progress call between the mobile device and the cellular carrier network.

38. (Withdrawn) The method of claim 37, wherein the message is a short message service (SMS) message.

39. (Withdrawn) The method of claim 37, wherein establishing a connection with the mobile device comprises:
sending an authentication message to an authentication server to authenticate the mobile device;
receiving a location of the mobile device and network configuration parameters from the authentication server; and
establishing a TCP connection to the mobile device based on the location of the mobile device;

40. (Withdrawn) The method of claim 37, further comprising:
after the in-progress call has terminated, listening on a paging channel of the cellular carrier network for calls destined for the mobile device.